

Decision Support Centre for Natural Disaster Management

Author(s): Radhakrishnan K, Roy PS, Hegde VS, Behera G, Rao MVK, Bhanumurthy V
Conference: 58th International Astronautical Congress held 24-28 September 2007
(Hyderabad, India)
Year: 2007
Publisher: International Astronautical Federation (IAF)
Page: IAC--07-B1.6.01

Abstract:

Natural disasters strike several parts of the globe at different seasons through out the year, resulting in enormous destruction of property and untold human sufferings. India has been traditionally vulnerable to natural disasters like cyclone, drought, floods, earthquakes, forest fires, landslides etc., besides recent Tsunami on account its unique geographical position, climate and geological setting. Each year disasters account for loss of millions of dollars in terms of social and community assets besides economic losses that are both immediate as well as long term in nature. In recent years, the focus of disaster management community is increasingly moving on to more effective utilization of emerging technologies such as remote sensing, Geographic Information System (GIS), and Satellite Communication, enabling to prepare for and mitigate potential impacts. Indian space infrastructure consisting of Indian Remote sensing satellites & INSAT system is uniquely placed to provide services related to Disaster watch, Warning dissemination, Data collection, Monitoring, Damage assessment, Vulnerability mapping, Communication support etc. Keeping in view of the potential of space technology, Department of Space (DOS) Govt, of India has launched a major programme for providing space based inputs to the nation for disaster management support. In this regard the Decision Support Centre (DSC) was established under Disaster Management Support Programme by Department of Space as an operational service provider of space enabled inputs for use of State and Central govt. user departments during pre-disaster, during disaster and post-disaster phases. A VSAT based satellite communication network is in place for online transfer of space enabled inputs to the State and Central.govt, user departments. At present the DSC is addressing natural disasters viz., Floods, Cyclone, Agricultural Drought, Forest fires, Earthquake and Landslides. As soon as information on the impending disaster is alerted by the identified nodal forecasting organizations, space and airborne data are acquired and analysed. First level information thus derived from space data are made available to the concerned State and Central agencies for taking relief actions on the ground. Further monitoring is undertaken on a regular basis for damage assessment. DSC also aims at building a comprehensive geo-spatial database of the disaster vulnerable regions of the country for more value addition and generation of user friendly products for decision making. DSC will have online interface with the concerned agencies for effective utilisation of ground observations with the space data for appropriate decision support. At present DSC is operationally providing information at national level on flood inundation progression, recession and damages in near real-time, agricultural drought situation reports, daily active forest fire locations besides event based assessment of impacts due to earthquake, landslides and cyclone. The paper mainly describes the infrastructure created and the services provided to the nation for natural disaster management through DSC with selected recent case studies successfully executed. Copyright IAF/IAA. All

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Source: <http://www.iafastro.net/iac/archive/browse/IAC-07/B1/6/7197/>

Resource Description

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Policymaker

Early Warning System:

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure :

weather or climate related pathway by which climate change affects health

Extreme Weather Event

Extreme Weather Event: Drought, Flooding, Hurricanes/Cyclones, Landslides, Wildfires

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: India

Health Impact:

specification of health effect or disease related to climate change exposure

Injury

Intervention:

strategy to prepare for or reduce the impact of climate change on health

Climate Change and Human Health Literature Portal

A focus of content

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type:

format or standard characteristic of resource

Review

Resilience:

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale:

time period studied

Time Scale Unspecified